

REMARKS

The Office Action mailed on January 27, 2006, has been reviewed and the comments of the Patent and Trademark Office have been considered. Prior to this paper, claims 1-18 were pending. By this paper, Applicants do not cancel any claims, and add claim 19. Therefore, claims 1-19 are now pending.

Applicants respectfully submit that the present application is in condition for allowance for at least the reasons that follow.

Indication of Allowable Subject Matter

Applicants thank Examiner Chatterjee for the indication that claims 4, 5 and 6 contain allowable subject matter. Applicants have acted on this indication by placing these claims into independent form, as seen above.

Priority Document

Applicant's thank Examiner Chatterjee for acknowledging Applicants' claim to foreign priority. Applicants do not understand the discussion regarding the English language translation of the priority Japanese document with respect to obtaining the convention priority date of April 23, 2003.

If a translation of the priority document is indeed need, Applicants will provide one. Applicants request that Examiner Chatterjee call Applicants representative, Martin Cosenza, at (202) 295-4747, if a translation of the priority document is indeed needed, so that the acquisition of that translation may be expedited.

Specification Objections

The specification is objected to as containing informalities. Applicants have amended the specification, as seen above, and request reconsideration in view of the above amendments.

Applicants thank Examiner Chatterjee for taking the time to suggest changes to the specification to remedy the objections.

Rejections Under 35 U.S.C. §112, Second Paragraph

In the Office Action, claim 9 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite. As seen above, claim 9 has been amended, and Applicants respectfully request reconsideration.

Claim Rejections Under 35 U.S.C. §103(a)

In the Office Action, Claims 1, 2, 8, 10 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jeon (U.S. Patent No. 6,487,501) in view of Satoh (U.S. Patent No. 6,489,887). Claim 3 is rejected over Jeon in view of Satoh as applied to Claim 2 above, and further in view of Hiwatashi (U.S. Patent No. 6,411,901). Claim 7 is rejected over Jeon in view of Satoh as applied to Claim 2 above, and further in view of Kinoshita (U.S. Patent No. 6,057,754). Claims 11, 12, 13 and 14 are rejected over Jeon in view of Satoh as applied to Claims 2 and 8 above, and further in view of Matsuda (U.S. Patent No. 6,216,079). Claims 15 and 18 are rejected over Jeon in view of Satoh as applied to Claim 2 above, and further in view of Kawazoe (U.S. Pub. No.: 2002/0013647). Claim 17 is rejected over Jeon in view of Satoh as applied to Claim 2 above, and further in view of Pilutti (U.S. Patent No. 6,021,367).

In order to advance prosecution, and without prejudice or disclaimer, Applicants have amended the claim set as seen above, and submit that these claims are allowable for at least the following reasons.

Applicants rely on MPEP § 2143, which states that:

[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

It is respectfully submitted that at least the first criteria of MPEP § 2143 cannot be met with respect to the current claims, and the third criteria *has not been met* in the Office Action (even before the above amendments).

The Cited References Do Not Suggest All Claim Recitations

Even if the first requirement of MPEP § 2143 was satisfied in the Office Action (which it is not, as explained below), the cited references still do not meet the third requirement, which is that “the prior art reference (or references when combined) must teach or suggest all the claim limitations.”

Independent claim 1, as amended, recites an automotive lane deviation prevention apparatus with a processor to execute “a vehicle yawing motion control by which a host vehicle returns to a central position of a driving lane, when the host vehicle is traveling on *predetermined irregularities . . . that produce vibratory motion input into the host vehicle.*” (Emphasis added.) In an exemplary embodiment of the invention, when a vehicle tire encounters rumble strips (predetermined irregularities that produce vibratory motion input) arrayed on or close to a left/right-hand side lane marking line of a driving lane, the processor issues a command to a vehicle control system to execute a yaw motion to bring the vehicle back to a central position of a driving lane.

None of the cited references, even after combination, disclose or suggest this feature. Jeon merely discloses a lane marker detector 14, that detects the lane marker through the use

of a magnetic sensor that detects magnetic nails installed in a lane marker. (*See, e.g.*, Jeon at col. 4, lines 57-67.) The system of Jeon thus merely detects the lane-marker position electromagnetically, and does not execute a yawing motion when the vehicle is traveling on predetermined irregularities that produce vibratory motion input into the vehicle. Indeed, because Jeon relies on electromagnetic detection, the system of Jeon requires additional infrastructure (the addition of magnetic nails into the roadway) for implementation. In contrast, the invention of claim 1 utilizes the infrastructure already present in a roadway (rumble strips). Jeon thus does not teach this feature of claim 1.

Satoh does not remedy the deficiencies of Jeon. Satoh merely teaches a lane-keeping assistance system that calculates a road shape based on information from a camera. As with Satoh, it does not execute vehicle control as claimed when the vehicle is traveling on predetermined irregularities that produce vibratory motion input into the vehicle.

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With respect to independent claims 2, and 16, these claims are allowable for at least the pertinent reasons that make claim 1 allowable. Independent claims 17 and 18 are likewise allowable, as Pilutti (cited against claim 17) and Kawazoe (cited against claim 18) do not remedy the above-identified deficiencies of Jeon. With respect to the claims that depend from claim 1, these claims are allowable for at least the reason due to their dependency from claim 1.

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In sum, even if the first requirement of MPEP § 2143 was satisfied, the third requirement of MPEP § 2143 cannot be satisfied based on the above-discussed references, because these references do not teach each and every element of the invention as claimed. Thus, the present claims are allowable for at least this reason.

Lack of Suggestion or Motivation to Modify or Combine the References

MPEP § 2143.01 states that “the prior art *must* suggest the desirability of the invention.” (MPEP § 2143.01, subsection 1, emphasis added.) The Office Action *does not identify sufficient motivation* to modify / combine the references that comports with the requirements of the MPEP, as will now be detailed.

Jeon + Satoh: The Office Action only alleges that it “would have been obvious . . . to combine the disclosures of Jeon and Satoh.” Mere assertions of obviousness are not sufficient to formulate a *prima facie* case of obviousness. As is detailed in MPEP § 2143, “there **must** be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.” (Emphasis added.) The Office Action does not identify where or what such suggestion or motivation is. By permitting a claim to be rejected based solely on an assertion of obviousness, the first requirement of MPEP § 2143 would be completely vitiated.

The Office Action does make mention that Satoh is in “an analogous art.” Applicants take this time to note that the “analogous art” requirement is only an *initial* requirement that must be met in order for references **to then be evaluated for** obviousness to combine / modify. That is, simply because two references are in an analogous art does not mean, by itself, that it would have been obvious to combine those two references.¹ If this was not the case, then practically everything would be obvious, as most inventions build upon various elements in the same art. The PTO must make a separate evaluation of the obviousness to combine such references. (Which has not been done in this Office Action, at least with respect to these two references.) In sum, even assuming *arguendo* that Jeon and Satoh come from analogous art, a *prima facie* case of obviousness to combine these references has not been established.

¹ However, the opposite is true: if the references are not from analogous arts, it would not have been obvious to combine such references. (MPEP § 2141.01(a).

Hiwatashi + Jeon + Satoh: As noted above, MPEP § 2143.01 states that “the prior art *must* suggest the desirability of the invention.” (MPEP § 2143.01, subsection 1, emphasis added.) It is respectfully submitted that the Office Action does not provide a rationale as to **why** one of ordinary skill in the art would have been motivated to modify / combine Hiwatashi with Jeon and Satoh (assuming *arguendo* that there was motivation to combine the latter two references, which, as detailed above, there is not).

True, for these references, the Office Action states a **result** of general implementation of the reference.² However, Applicants respectfully submit that a *result* is not the same as a *reason why* one of ordinary skill in the art would be motivated to combine the references, however desirable those results may be. If motivation to combine references to establish a *prima facie* case of obviousness could merely be satisfied by a result-oriented analysis of the prior art, the first requirement (and second requirement) of MPEP § 2143 would be completely vitiated. This is because by identifying references that teach each individual element of a claimed invention, implementation of the teachings of the cited references almost always necessarily provides results according to a given invention under examination. Indeed, such an analysis relies on impermissible circular reasoning.

In contrast to the result-oriented analysis proffered in the Office Action, the MPEP specifically states that “the prior art must suggest the desirability of the claimed invention.” The Office Action, in relying only on results, does not identify where the prior art **suggests** the desirability of an automatic lane deviation prevention apparatus according to claim 3.

Kinoshita + Jeon + Satoh: As with the combination of Hiwatashi with Jeon and Satoh, the Office Action only alleges a result of the general implementation of Kinoshita with the Jeon-Satoh combination. Again, as detailed above, a result is not the same as a reason why one would have been motivated to combine these references. A *prima facie* case of obviousness has not been made with respect to these references as well, both because of a

² The Office Action asserts that it would have been obvious to modify “to determine if the host vehicle is traveling on the predetermined irregularities near lane marking lines of the driving lane.”

lack of motivation to combine Kinoshita with Jeon and Satoh, and because of a motivation to combine Jeon and Satoh.

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Regarding the remaining combinations, Applicants respectfully submit that the Office Action repeatedly alleges only results of the combination of the various references, but never identifies where motivation to combine such references may be found in the prior art. That is, the Office Action does not identify a *reason why* one of ordinary skill in the art would be motivated to combine the remaining references. Thus, a *prima facie* case of obviousness has not been established with respect to any claim, both for this reason and due to the lack of motivation to combine the base Jeon – Satoh references.

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In summary, because of the lack of suggestion or motivation in the prior art to modify the references, the first requirement of MPEP § 2143 has not been met and, hence, a *prima facie* case of obviousness has not been established. Therefore, the claims of the present invention are allowable. Reconsideration is respectfully requested.

New Claim

As seen above, Applicant has added new claim 19. Claim 19 is allowable due to its dependency from claim 1, and due to at least the fact that the cited references do not disclose or suggest a control unit as recited.

Support for claim 19 may be found, among other places, at Figs. 1 and 2, and the specification at pages 20-26.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Examiner Chatterjee is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

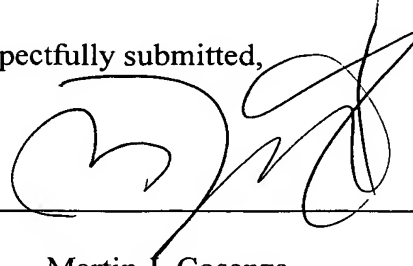
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Respectfully submitted,

By



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